



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/147,318	02/24/1999	MATS LEIJON	98470006-6X	1542
22850	7590	03/24/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			MULLINS, BURTON S	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/147,318

Applicant(s)

LEIJON ET AL.

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2002.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-36 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 18-36 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Pursuant to the Board of Appeal's final decision regarding U.S. Application No. 08/973,019, suspension has been lifted. As set forth in the decision on petition requesting suspension, the instant application was granted a suspension pending the decision on appeal of the '019 application. On November 27, 2002, the Board affirmed the rejection of the '019 application and on August 27, 2003, the Board denied applicant's request for reconsideration, thus terminating prosecution of the '019 application. An action on the merits follows.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 18-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shildneck (US 3,014,139) in view of Elton et al. (US 4,853,565) and Grant (US 5,325,008). Shildneck discloses the claimed invention including a continuous winding drawn through first, second and third slots of an electromagnetic machine, e.g. a large turbo-generator (Fig.3), wherein the winding employs an improved form of flexible, insulated conductor for the laminated armature core of the dynamo-electric machine.

Shildneck does not disclose details of the winding cable structure; nor does Shildneck teach a spring member in the stator slot to reduce problems associated with vibration of the machine.

Elton teaches that it is known to have an electrical machine cable structure comprising an internal grading layer of semi-conducting pyrolyzed glass fiber layer in electrical contact with the cable conductor. In another embodiment, Elton teaches an electrical cable with an exterior layer of internal grading layer of semi-conducting pyrolyzed glass fiber in contact with an exterior cable insulator with a predetermined reference potential. Elton's cable winding minimizes the possibility of corona discharge, minimizes voids and maintains uniform and equal electric potential (c.2, lines 44-60).

Grant teaches spring members 16/26 disposed axially or radially along the stator winding in the slots for the purpose of maintaining the windings tight within the slots over the age of the machine (c.4, lines 7-13). Grant further teaches a method of installing the spring members whereby the spring members are adhesively secured to flat surfaces, i.e. filler strips, and at a predetermined elevated temperature the adhesive breaks and the springs expand into a corrugated shape to apply load against the stator winding and wedges.

It would have been obvious to one having ordinary skill at the time of the invention to use the cable of Elton as the winding conductor in the stator of Shildneck to minimize the possibility of corona discharge; and furthermore to provide springs per Grant between the conductor(s) and the stator slots since such a modification would have prevented the conductor cables from movement and maintained the cables tight within the slots.

With regard to claim 32, it would have been obvious design choice to provide appropriate coefficients of thermal expansion for the insulator and semiconductor layers so as to prevent cracking and strain.

With regard to claims 21-24, Grant teaches an alternative method of inserting the ripple springs by first disposing filler strips in the space between the wedges and the stator conductors and then removing the filler strips so that the springs can be inserted (c.1, line 48-c.2, line 7).

Response to Arguments

4. Applicant's arguments filed May 13, 2002 have been fully considered but they are not wholly persuasive. Regarding Shildneck, applicant argues that the specification's statement that typical high voltage machine operating ranges "*may* be 36 to 800 kV" suggest a machine that exceeds Shildneck's "high voltage" machine's ranges. While this *may* be true, the specification nevertheless definitively states that a high voltage machine operates at voltages in excess of 10 kV. Shildneck was described in the declaration of Mr. Robert Fenton to operate at voltages from 10kV to 15 kV (p.19, paragraph 43) and hence can be defined by applicant's own terms as a "high voltage" machine.

With regard to applicant's assertion that Elton's cable would not be suitable as a winding in an electric machine, the examiner points out that Elton clearly intends the insulated conductors for use as windings in a dynamoelectric machine (abstract; c.4, line 50-c.6, line 4; c.8, lines 45-60; Figs.1-6).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837

Art Unit: 2834

F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Elton's cable winding minimizes the possibilities of corona discharge, maintains resistivity value after impregnation, minimizes voids and maintains uniform and equal electric potential (c.2, lines 44-60); while Grant clearly teaches that it is advantageous to use springs to maintain the windings tight within the slots over the age of the machine (c.4, lines 7-13).

Information Disclosure Statement

5. The information disclosure statements submitted on August 22, 2000, April 24, 2001, March 13, 2002 and September 19, 2002 have been considered by the examiner.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2834

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
March 17, 2004